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EXAMINER

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 13

Application Number: 09/656,683
Filing Date: September 07, 2000
Appellant(s): KNOX, DICK LEE

Baker Hughes Incorporated
For Appellant

EXAMINER'S ANSWER

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This is in response to the appeal brief filed 29 July, 2002.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) *Summary of Invention*

The summary of invention contained in the brief is deficient because it does not refer to pages, lines and Figures.

(6) *Issues*

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

- Whether claims 1, 3, 6 and 7 are unpatentable under 35 U.S.C. 103(a) over Beavers et al. in view of Balsells.
- Whether claims 2, 5, 8, 9 and 11-13 are unpatentable under 35 U.S.C. 103(a) over Beavers et al. in view of Balsells and further in view of Nogle.
- Whether claim 4 is unpatentable under 35 U.S.C. 103(a) over Beavers et al. in view of Balsells and further in view of Ide.

- Whether claims 10 and 14 are unpatentable under 35 U.S.C. 103(a) over Beavers et al. in view of Balsells and Nogle and further in view of Ide.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-14 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8). However, the grouping of claims should be as follows:

- Claims 1-7 stand or fall together.
- Claims 8-14 stand or fall together.

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

4,119,874	Beavers et al.	10/1978
4,890,937	Balsells	1/1990
3,485,540	Nogle	12/1969
5,436,515	Ide	7/1995

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells.

Regarding claim 1, Beavers et al. show in an elongated electric motor (Figure 1) for a submersible pump having a cylindrical housing (13), a stator (15) mounted in the housing for producing a magnetic field when supplied with electrical power, a rotatable shaft (21) installed within the stator, a rotor (17) comprised of spaced apart rotor sections mounted to the shaft, an improved bearing assembly mounted between two of the adjacent rotor sections for supporting the shaft, comprising in combination:

- A stationary bearing body (25) that rotatably receives the shaft, the bearing body having a cylindrical outer periphery with a cavity (39) extending to the outer periphery of the bearing body; and
- A corrugated spring member (41) contained in the cavity, having an outer portion that frictionally engages an inner wall of the stator, preventing rotation of the bearing body and stabilizing the shaft.

Beavers et al. do not show the spring member being a coiled member.

Balsells shows the spring member being a coiled member (22) for the purpose of reducing wear.

Since Beavers et al. and Balsells are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use a coiled member as taught by Balsells for the purpose discussed above.

Regarding claim 3, it is noted that Balsells also shows the coiled member (22) being a continuous coiled element extending entirely around the outer periphery of the bearing body (12).

Regarding claim 6, it is noted that Balsells also shows the cavity extending circumferentially along the outer periphery of the bearing body, and the coiled member having a centerline that extends circumferentially around the bearing body.

Regarding claim 7, it is noted that Balsells also shows the coiled member having a radial dimension from an inner portion to the outer portion that is greater than a radial dimension from a base of the cavity to the inner wall of the stator while the coiled member is in an undeflected state (Figure 1).

Claims 2, 5, 8, 9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells as applied to claim 1 above, and further in view of Nogle.

Regarding claim 2, the motor of Beavers et al. modified by Balsells includes all that is recited in the claimed invention except for the coiled member being made of a metallic material.

Nogle shows the coiled member (30) being made of a metallic material (steel) for the purpose of increasing spring rates.

Since Beavers et al., Balsells and Nogle are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coiled member of a metallic material as taught by Nogle for the purpose discussed above.

Regarding claim 5, it is noted that Nogle also shows the coiled member being circular in cross-section and having a cross-sectional diameter greater than a radial depth of the cavity (Figure 1).

Regarding claim 8, Beavers et al. show an elongated electric motor, comprising in combination:

- A cylindrical housing (13);
- A stator (15) mounted in the housing for producing a rotating field when supplied with electrical power;
- A rotatable shaft (21) installed within the stator;
- A rotor (17) comprised of spaced-apart rotor sections mounted on the shaft;
- A stationary bearing body (25) that rotatably receives the shaft and is located between two of the rotor sections, the bearing body having a cylindrical outer periphery provided with a cavity (39) extending circumferentially along the outer periphery of the bearing body; and
- A spring member (41) contained in the cavity with an outer portion that extends circumferentially along the outer periphery of the bearing body and

frictionally engages an inner wall of the stator, preventing rotation of the bearing body and stabilizing the shaft.

Beavers et al. do not show the coiled member being metallic and the coiled member being circular in cross section with a cross-sectional diameter greater than a radial depth of the cavity.

Balsells shows the coiled member (22) with a cross-sectional diameter greater than a radial depth of the cavity for the purpose of reducing wear.

Nogle shows the coiled member (30) being metallic and circular in cross section for the purpose of increasing spring rates.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the coiled member being metallic and the coiled member being circular in cross section with a cross-sectional diameter greater than a radial depth of the cavity as respectively taught by Nogle and Balsells for the purposes discussed above.

Regarding claim 9, it is noted that Balsells also shows the coiled member being a continuous coiled element extending entirely around the outer periphery of the bearing body.

Regarding claim 11, it is noted that Balsells also shows the cross-sectional diameter of the coiled member while undeflected being greater than the radial dimension from a base of the cavity to the stator inner wall.

Regarding claim 12, Beavers et al. show an improved bearing assembly for mounting between adjacent rotor sections of an elongated electric motor having a

stator, a rotatable shaft installed within the stator, and a rotor comprised of spaced apart rotor sections mounted to the shaft, the bearing assembly comprising in combination:

- A stationary bearing body (25) adapted to rotatably receive the shaft (21), the bearing body having a cylindrical outer periphery with a circumferentially extending cavity (39) therein, the cavity having an outward facing base; and
- A spring member (41) contained in the cavity.

Beavers et al. do not show a metallic coiled member contained in the cavity, the coiled member having a circular cross section with a cross-sectional diameter greater than a radial dimension of the cavity, having an inner portion in contact with the base and an outer portion protruding past the outer periphery for contact with the stator.

Balsells shows a coiled member (22) contained in the cavity with a cross-sectional diameter greater than a radial dimension of the cavity, having an inner portion in contact with the base and an outer portion protruding past the outer periphery for contact with the stator for the purpose of reducing wear.

In addition, Nogle shows the coiled member being metallic and having a circular cross section for the purpose of increasing spring rates.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the coiled member being metallic and the coiled member being circular in cross section with a cross-sectional diameter greater than a radial depth of the cavity as respectively taught by Nogle and Balsells for the purposes discussed above.

Regarding claim 13, it is noted that Balsells also shows the coiled member being a continuous coiled element extending entirely around the outer periphery of the bearing body.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells as applied to claim 1 above, and further in view of Ide.

Regarding claim 4, the motor of Beavers et al. modified by Balsells includes all that is recited in the claimed invention except for the coiled member comprising a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body.

Ide shows the wheel member (37) comprises a plurality of wheel member segments that are spaced apart from each other around the outer periphery of the bearing body (Figure 2) for the purpose of balancing the sliding support.

Since Beavers et al., Balsells and Ide are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coiled member with a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body as taught by Ide for the purpose discussed above.

Claims 10 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Beavers et al. in view of Balsells and Nogle as respectively applied to claims 8 and 12 above, and further in view of Ide.

Regarding claims 10 and 14, the motor of Beavers et al. modified by Balsells and Nogle includes all that is recited in the claimed invention except for the coiled member comprising a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body.

Ide shows the wheel member (37) comprises a plurality of wheel member segments that are spaced apart from each other around the outer periphery of the bearing body (Figure 2) for the purpose of balancing the sliding support.

Since Beavers et al., Balsells, Nogle and Ide are all from the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the coiled member with a plurality of coiled member segments that are spaced apart from each other around the outer periphery of the bearing body as taught by Ide for the purpose discussed above.

(11) Response to Argument

The applicant's argument is on the ground that the coiled member (22) of Balsells does not prevent rotation of the bearing body and stabilize the shaft. It is noted that although the coiled member (22) of Balsells does not prevent rotation of the bearing body and stabilize the shaft, Beavers et al. clearly show that the spring member (41) frictionally engages the stator and the bearing to prevent rotation of the bearing (25). See abstract and column 2, lines 45-52.

In addition, it has been known that the spring can have different forms or shapes (i.e. coiled or wavy). As a result, replacing the wavy spring of Beavers et al. with a coiled member involves only routine skill in the art because more than mere change of form or rearrangement of parts is necessary for patentability. Moreover, change in form of any element of prior patent must result in more than useful natural phenomenon that man has accumulated through common knowledge while using the coiled member would only prevent the rotation of the bearing which is a function already disclosed by Beavers et al. Therefore, using the coiled member to prevent rotation of the bearing body cannot sustain patentability where involved is only extended application of obvious attributes from prior art. *Span-Deck Inc. v. Fab-Con, Inc.* (CA 8, 1982) 215 USPQ 835.

The applicant also submits that "there is no suggestion of combining the references." The examiner respectfully disagrees because references may be combined although none of them explicitly suggests combining one with the other. In re Nilssen, 7 USPQ2d 1500 (Fed. Cir. 1989).

The examiner would also like to note that the spring can be used to support the shaft through the bearing sleeve for purposes different from preventing the rotation of the bearing. It can be used to float the bearing as in Balsells, column 2, line 59 or to allow the free flow of lubricating fluid as in Nogle, column 3, line 54. Therefore, the motivation in the prior art to combine references need not be identical to that of the applicant to establish obviousness. In *Kemps*, 40 USPQ2d 1309, (Fed. Cir. 1996).

Regarding the applicant's argument that "Nogle does not deal with a submersible pump electric motor", it is noted that although Nogle does not deal with a submersible

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pump electric motor, Nogle and Beavers et al. all deal with bearings supporting the shaft.

Moreover, the claims in the present application are apparatus claims. Therefore, they must be structurally distinguishable from the prior arts. In other words, claims directed to apparatus must be distinguished from the prior arts in terms of structure rather than function. In re Danley, 120 USPQ 528, 531 (CCPA 1959). Apparatus claims covers what a device is, not what a device does. Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990).

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

DDL
September 25, 2002

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